

Agenda Item 388.1

HOGAN, SCHOCH & ASSOC 09/18/89
ROUTE E PRELIMINARY\ MAY 1983
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ROUTE E
PRELIMINARY PLAN - REPORT
MAY 1983

Hogan, Schoch & Associates, Inc.
Project Engineer: Paul L. Schoch
Project No. 0283-E027
May 3, 1983

SEBASTOPOL

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AUTHORIZATION

On October 13, 1982 the Sebastopol Environmental Review Committee met to discuss the Suffolk Meadows Use Permit Application, Zoning Change Application, and Subdivision Application. The plans as submitted by the applicant indicated development of the property but did not show the location of Route E or Palm Avenue Extension. The applicant was made aware that the Draft Environmental Impact Report for the adjacent property (Laguna Vista), prepared on October 15, 1981, made specific reference to a Palm Avenue connection to Route E. In addition, Standard City Policy required that future roadway patterns be considered in any development proposal. The City Manager's memorandum to Bruce Aspinall, Planner, dated October 12, 1982, specifically mentioned these items of concern. The developer was given a list of additional information needed by the E.R.C. prior to further review of his project for approval. On January 19, 1983, Walter Laabs, Traffic Engineer for the City, submitted his report which made specific reference to prior City Council approvals for Palm Avenue Extension and an eastern by-pass. On January 26, 1983 the E.R.C. met with the applicant to review his overall plan and traffic roadway patterns. At this meeting it was observed that there was a potential conflict between the applicant's project, Route E, and Palm Avenue Extension. As a result of this potential conflict, and the need to resolve Route E alignment, the question was forwarded to the City Council on February 2, 1983.

At the City Council meeting of February 2, 1983, the applicant presented a six page letter outlining the background and the need for a decision for Route E alignment. The City Council then authorized the preparation of a

preliminary engineering report regarding the feasibility of Route E. The scope of work was to be as per memorandum dated 31 January 1983 to City Manager, Melvin K. Davis.

HISTORY

A by-pass to the City of Sebastopol has been discussed since the DeLeuw Cather Report in 1958. Various forms and locations of a by-pass have been periodically brought before the City for review and approval. Route E had its inception in 1974. A brief history of Route E is as follows:

December 26, 1974	The City of Sebastopol Traffic Committee, consisting of City Manager Melvin K. Davis, Police Chief Dave Malkin, Traffic Engineer Walter Laabs, and City Engineer Paul L. Schoch discussed various alternatives to alleviating traffic in the central business district by means of various by-pass roads. These alternatives were titled A through E. Of all the preliminary proposals, Route E appeared to produce the best results at lowest cost and least impact to developed property. Route E was proposed as a north-south connector between Gravenstein Highway on the south and Highway 12 on the north.
February 17, 1975	Proposed Route and letters sent to Sonoma County Water Agency, Petaluma and Santa Rosa Railroad, and California Department of Transportation for review and comment.
March 6, 1975	Proposed Route and letters sent to Sonoma County Department of Public Works and Sonoma County Planning Department for review and comments.
April 7, 1975	Response from Department of Transportation indicating there were no major objections to a proposed Route E and possible integration into the State Highway System.
May 15, 1975	Response from Sonoma County Department of Public Works indicating favorable support for proposed Route E.
June 11, 1975	Initial City Council review of various alternative alignments for Route E.

November 3, 1975 Initial engineering estimate of construction for Route E prepared. Estimated cost in 1975 dollars at \$446,400.00.

November 19, 1975 City Council authorizes Don Laidlaw, Planning and Environmental Consultant, to prepare preliminary environmental study for Route E at cost of \$2,010.00.

May 3, 1976 Preliminary Environmental Investigation submitted to City by Don Laidlaw Associates.

May 11, 1976 Report received from Bruce Harding, Real Estate Appraiser, with estimated right-of-way cost for Route E (our alignment E-1) at \$252,000.00. Cost of appraisal study \$750.00.

June 7, 1976 City Council and Planning Commission conduct a combined meeting at the Veterans' Memorial Building to review preliminary environmental investigation. City Council and Planning Commission both vote in favor to continue with E.I.R. and authorize City Manager to prepare formal agreement with Don Laidlaw Associates for preparation of E.I.R., to be approved at June 21, 1976 Council meeting.

June 13, 1976 Don Laidlaw Associates prepares proposal for E.I.R. Estimated cost of E.I.R. \$12,200.00.

June 21, 1976 City Council on 3-0 vote defeats resolution to enter into an agreement to prepare E.I.R. for Route E.

October 4, 1976 City Council replies to Planning Commission letter regarding Route E indicating that it is not the City Council's intention to re-open discussion of Route E.

November 9, 1976 City Council discussed letter from Mrs. Juliana Doms regarding sharing costs of draft E.I.R. with County for Route E. City Council voted in favor on a 3-2 vote to instruct Staff to write a letter requesting the County pay for one-half the cost of a draft E.I.R. for Route E.

December 3, 1976 Response from County indicating that this type of request was being held pending the seating of the new Board in January 1977.

March 15, 1977 Letter from City to Supervisor Eric Koenigshofer indicating the need for alternate by-pass routes for the City of Sebastopol.

August 1980 Report of the West Sebastopol Transportation Committee.

PRELIMINARY ENVIRONMENTAL REPORT

On May 3, 1976 Don Laidlaw submitted to the City his report entitled "Route E By-Pass, Preliminary Environmental Investigation". The brief results of his investigation were as follows:

1. Soils - The soil classification was noted with the comment that the material was a poor source for road fill. The soils are acceptable for road base if properly prepared. Erosion was not considered a potential problem.
2. Geology - There were no known earthquake faults within the proposed roadway alignment. Slopes were considered stable and no landslides were indicated.
3. Hydrology - Portions of the roadway are below 76' contour and subject to inundation during major floods. Constructing roadway above the 76' level was considered inappropriate since the connecting roadway floods and no provision for the raising of Highway 12 is anticipated. Culverts would be required to allow the continued passage of water from the west to east.
4. Water Quality - This environmental component was not investigated since run-off from the roadway is infinitesimal to the total run-off entering the Laguna.

5. Air Quality - If roadway was installed, the air quality of downtown Sebastopol would be somewhat improved and, conversely, air quality in the by-pass corridor would be degraded. However, in both cases air quality is not below standards as established by Bay Area Air Pollution Control District.
6. Right-of-Way Acquisition - Some residences would be acquired with resultant relocation. Some severance of agricultural lands could adversely impact existing livestock breeding operations.
7. Land Use - Detailed study of impact regarding land use not made but was reserved for final E.I.R.
8. Traffic - Proposed by-pass would benefit downtown traffic conditions by reducing traffic volumes. This improvement would be especially true if roadway were extended north.
9. Noise - Construction of the roadway would improve the present downtown traffic corridor by reduction of noise level. Correspondingly, this would increase the noise level on the proposed roadway. However, impacts were unknown.
10. Biotic - Area studied by Dr. Phillip T. Northen of Sonoma State College. A separate report by Dr. Northen indicated that there would be a significant impact on the bird habitat along the Laguna

and that the "by-pass could have significant adverse impact on the Biota of the area". The reports by Dr. Northen indicate that further detailed studies would have to be made to specifically pin-point the areas of significant adverse impacts should the roadway be constructed.

11. Archeologic and Historic - Two sites were found with only one being of value for further investigation.

The preliminary environmental investigation indicated that if an E.I.R. were prepared for Route E, it would also have to consider the ultimate northern extension to High School Road and Occidental Road. This would be required to comply with CEQA requirements for evaluation of probable effects of the project.

ROADWAY DESIGN CRITERIA

It was the initial intent of this study to analyze Route E somewhat in the same alignment as was studied in 1975-1976. However, after investigating the aerial photography for the area east of Gravenstein Highway and Petaluma Avenue and as far south as Bloomfield Road, it became apparent that additional possible alignments were available which would reduce the impact to developed parcels. Therefore, three separate alignments have been studied and designated as E-1, E-2 and E-3.

E-1 - This alignment is the same alignment as was investigated in 1975-1976 and for which the preliminary environmental study and right-of-way appraisals were made. The southern terminus of E-1 is at Fircrest Avenue.

E-2 - This alignment starts at the same northern point as E-1 but instead of connecting west to intersect Fircrest Avenue, the roadway bends easterly to skirt the eastern boundary of Fircrest Mobile Home Park. After passing the mobile home park, it then turns southwestward to intersect Cooper Road.

E-3 - The southernmost route begins at the same location as E-1 and E-2 at State Highway 12 and continues in the same alignment as E-2 until reaching Fircrest Mobile Home Park. At this point, where E-2 turns to the southwest, Route E-3 turns to the southeast and makes a further southerly tie to Gravenstein Highway at Bloomfield Road.

It is proposed in all three alternative alignments that the roadway be a two-lane road with an 8' striped shoulder. Total paved width would be 40'. The right-of-way is planned at 60'. All alignments will require a traffic signal at Sebastopol Avenue (State Highway 12) intersection, a railroad warning device at railroad crossing (1,000' south of Sebastopol Avenue), a traffic signal at Palm Avenue intersection, and a traffic signal at the southern terminus with Gravenstein Highway (State Highway 116).

For the southern terminus of alignment E-1, it will be necessary to perform some minor railroad track improvements and to widen the State highway and modify Fircrest Avenue. For the southern terminus of E-2 alignment, not only will improvements be necessary to the railroad track for a considerable distance in a north and south direction to improve grade, but also highway widening will be required to provide sufficient width for left turn storage lanes. The southern terminus of E-3 alignment does not have a railroad crossing so this will eliminate a construction cost required in E-1 and E-2. The highway has already been widened by the State at Bloomfield Road, so connection will be at a reduced cost when compared to E-1 and E-2.

Based upon the preliminary soils report from the environmental investigation in 1976 and our own soils report, a structural section of 24" Class II Aggregate Base with 3" AC is anticipated. In addition, due to the extensive ground water throughout the entire route, it will be necessary to install stabilization fabric on the subgrade prior to placement of rock. Up-hill sub-drains will be required through a considerable amount of the roadway to handle the extensive ground water. There would be no curb, gutter or sidewalk along the entire roadway, nor would access be allowed except for selected points as shown on the plan.

REPORT FINDINGS

As was done in the 1976 preliminary environmental report, professionals in each field were contacted and field inspections made. It is the intent of this report to provide a basis for any further environmental report or

studies and for the City Council to make a determination as to the advisability of continuing with the project. Each professional contacted to make an investigation and report was told that this is a preliminary investigation and feasibility for determining any further studies. The practicality of constructing a roadway in the proposed alignments was the prime objective of this analysis. Specific physical constraints which were reported were then incorporated in the proposed alignments. The three routes which will be reviewed by the City are the results of many separate alternative configurations. In some cases, the roadway alignment was shifted to reduce right-of-way acquisition costs. In others, the roadway was shifted to reduce the environmental impacts. In all cases, the professionals involved as part of this study gave it their "best shot" for a roadway which can be constructed with the least environmental and economic impacts to the City. The findings of the various professionals contacted are as follows:

Soils and Geology - Naohiko Noguchi, Chief Engineering Geologist of Applied Earth Sciences, Inc., made a field inspection of the proposed alternative routes. Mr. Noguchi's findings were that in all cases, the native soils were saturated by springs and ground water which would necessitate sub-drains on the up-hill portion of road. A preliminary investigation of the soils indicated that the "R" value is low enough to justify a 24" base material section to handle the proposed truck traffic. In reviewing alignment E-2 it was Mr. Noguchi's opinion that the roadway is well removed from the slide on Cooper Road and would not be a problem to the road. There are no known earthquake faults within

the proposed roadway area and no unstable soils were encountered in any of the three alignments. Based upon soils and geology, the roadway is entirely feasible.

Traffic - Mr. Walter Laabs, Consulting Traffic Engineer, has prepared a memorandum regarding the Route E alternatives. The results of his traffic analysis indicate that all three alternatives were feasible. There will be reduction in the amount of through traffic for E-2 and E-3. A copy of Mr. Laabs' memorandum is enclosed.

Planning - Land Use - Mr. Bruce Aspinall, Consulting City Planner, has reviewed the proposed alignment with City Staff. In addition, Mr. Aspinall has reviewed the project in relationship to the wet lands study. Although the roadway will impact primary wet lands, especially between Highway 12 and the railroad, the extent and amount does not appear to be of such a magnitude that would prevent the construction of the road. There appears to be no particular land use conflict since the roadway skirts the lower portion of the flood plain (between elevation 72 and 76) where development would not be approved due to the flood plain zoning. The construction of the roadway appears feasible from a planning and land use standpoint.

Petaluma and Santa Rosa Railroad - Copies of the proposed E-1, E-2 and E-3 alignments have been sent to Mr. Cal Gerhardt of the Petaluma and Santa Rosa Railroad. Mr. Gerhardt did not provide his answers in writing, but did verbally discuss them with me. The railroad would require an

automatic crossing guard at the railroad crossing 1,000' south of Sebastopol Avenue. Although the railroad would automatically recommend the same crossing guards at Fircrest Avenue and Cooper Road, Mr. Gerhardt recognizes the impracticability of placing a crossing guard at a signalized intersection. It is anticipated that the signals would be an adequate safety measure for halting traffic attempting to make the railroad crossing and therefore a special guard would not be required. Railroad track improvements would be required on Fircrest Avenue and Cooper Avenue intersections.

Wet Lands - Mr. Allen Buckmann, Wild Life Biologist for the California Department of Fish and Game, has reviewed the proposed alignments. Prints of these maps have been submitted to him for his verbal and written response. To this date, we have not received a written response. However, he has discussed the issue with both Bruce Aspinall and myself. He believes that there are impacts that would be created by the construction of the roadway. It is his belief that these impacts can be mitigated by proper construction practices and by the fact that some residual lands purchased in the right-of-way negotiations would eventually be in public ownership and therefore enhance the potential for wild life habitat. There has been discussion of the possible use of the railroad alignment where it intersects Sebastopol Avenue just east of C&W Ford. This is only feasible if the railroad abandons the track. Placement of the road on the railroad embankment would reduce the impact on the Laguna since the existing roadway bed would only need to be widened to provide sufficient

width for a paved roadway. Since the railroad alignment has already removed vegetation and habitat, the additional widening would be a minimal impact. In the area of the proposed Suffolk Meadows project, the Laguna comes quite close to the most northeasterly corner of the proposed project. Mr. Buckmann does not believe it is environmentally feasible to shift the road east without creating a major impact to the wet lands and the Laguna de Santa Rosa and he would "fight us all the way" should the alignment be shifted easterly. For this reason, the roadway is shown as indicated on the alignment maps to miss this very sensitive area. Mr. Buckmann was also quite concerned about the vernal pools and up-land springs which feed the Laguna. A mitigating measure in the construction of this roadway would require culverts underneath the roadway to maintain the integrity of the up-hill springs and provide free flow of water to the Laguna. Mr. Buckmann was quite positive that with proper mitigation measures, approval would be granted by the Fish and Game.

Right-of-Way - In the 1976 study, Harding Appraisal Company, Inc. was engaged to provide a cost estimate for right-of-way acquisition. Again, Bruce Harding, M.A.I., was engaged to evaluate the cost of right-of-way for the three alternative routes. Mr. Harding's response is in the Appendix of this report. The right-of-way costs for the three alternatives is estimated as follows:

E-1 - \$1,260,000.00

E-2 - \$1,104,000.00

E-3 - \$1,005,000.00

It is of interest to note that the longest alignment has the lowest right-of-way cost. The reason for this is that there are fewer structures which have to be purchased.

The right-of-way cost includes the purchase of vacant land east of the right-of-way. The reason for this is that it is the intent that no access be provided along this route except at selected points. Therefore, property east of the right-of-way is severed from west of the right-of-way and becomes unusable to the property owner. For this reason, purchase of these remnants are included.

Construction Cost Estimate - All three roadway alignments were estimated based upon the design criteria mentioned. In addition to using our best engineering judgment for 1983 costs, the proposed roadway alignments and type of construction were reviewed with several contractors to obtain their input. Their thoughts regarding costs and feasibility were incorporated in our engineering cost estimates. In all cases, the contractors believe that the roadway is a relatively simple construction project. The reason for this is that it is in open terrain where there are limited conflicts with traffic and utilities. Heavy construction equipment can use the roadway alignment for access without using public streets. Construction would not be halted due to traffic and/or utility conflicts. Since no curb, gutter or sidewalk will be installed, the roadway can be constructed with heavy equipment and minor changes in grading can be made without creating drainage conflicts. Stabilization fabric and sub-drains

were recommended which confirmed the soils engineer's analysis.

Construction cost estimates for the alignments is as follows:

E-1 - \$1,209,732.00

E-2 - \$1,538,539.00

E-3 - \$1,893,706.00

Project Cost - In addition to the construction cost and right-of-way acquisition cost, additional costs would be incurred for a complete project. The break-down in project cost is included in the appendix of this report. Total project cost including right-of-way acquisition, right-of-way negotiation, condemnation, construction, engineering, and administration is as follows for the three alternatives:

E-1 - \$2,970,705.00

E-2 - \$3,138,642.00

E-3 - \$3,404,326.00

IMPLEMENTATION

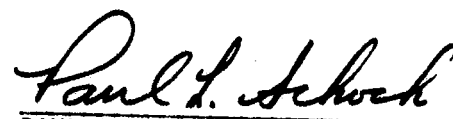
The preliminary analysis made by all professionals indicates that construction of a Route E in alignment E-1, E-2 or E-3 is feasible. The consensus is that E-2 or E-3 is more favorable than E-1 because there is less relocation of residences and the alignment is through open area as opposed to improved property. E-1 has the detrimental effect of having the mobile home park exit into the roadway close to the southerly terminus which is not the most desirable situation. Both E-2 and E-3 are alignments which produce the least impact to property owners.

If a Route E is to be constructed, then the following is a possible simplified implementation process:

1. City Council to agree that Route E is a viable alternative to help solve the traffic congestion within the City, and that it will eventually be a part of an overall traffic corridor which will by-pass Sebastopol in a north-south direction.
2. City Council to review the various alternative routes and to either delete, add, or modify these proposals for further study.
3. City Council to authorize a full E.I.R. for the proposed route or routes selected.
4. Upon completion of E.I.R., zero in on a selected single route, hold public hearings and approve or modify final route selection.
5. Establish a plan line on the selected route.
6. Design proposed roadway and prepare specific right-of-way take maps and descriptions.
7. Acquire right-of-way as per approved design.
8. Construct roadway.

CONCLUSIONS AND RECOMMENDATIONS

Based upon this preliminary study, it appears entirely feasible that if funding is available a Route E can be constructed in one of several alignments. The purpose of this study is for the City to determine if a Route E will be constructed, and if so, in what alignment. If the City Council believes that this proposed roadway alignment will reduce traffic impacts on the City, then further studies should be authorized with the eventual objective of establishing a plan line. If it is the City's direction that this proposed roadway is not viable, then it is my recommendation that it be removed from the general plan.



PAUL L. SCHOCH
City Engineer

A P P E N D I X

HARDING APPRAISAL CO., Inc.

BRUCE HARDING, M.A.I.

5985 Lone Pine Road
Sebastopol, California 95472
707 - 823 7388

April 29, 1983

Mr. Paul Schoch
Hogan, Schoch & Associates
Sebastopol, California

Dear Mr. Schoch:

At your request I have made preliminary estimates for the acquisition costs as shown on the aerial plats for the various routes between State Route 12 and State Route 116. The amounts indicated are for land which may be acquired and for possible damages to the remainders. At this time the loss in value to remainders cannot be clearly defined, and the estimates may require substantial refinement. Estimates for the routes are as follows:

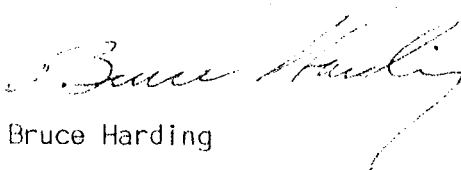
Hwy. 12 to Fircrest Ave.	\$1,115,000
Palm Avenue Access Extension	\$ 145,000
Hwy. 12 to Cooper Road	\$ 960,000
Future Extension thru Vacu-Dry	\$ 545,000
Hwy. 12 to Bloomfield Road	\$ 860,000

None of the above estimates include relocation costs which may or may not be incurred, nor do they include any good will or loss in business which may or may not be a factor with regard to a few of the ownerships.

It is understood that the estimates are preliminary at this time, and are to be used only for possible budgeting considerations. Should more exact estimates be desired for any of the routes, it is suggested that a more complete analysis be made.

If you have questions with regard to any of the amounts indicated above, let me know and I will be glad to go over the factors considered at this time.

Yours truly,


Bruce Harding

April 28, 1983

File: 307

MEMORANDUM

To: Paul Schoch, City Engineer
From: Walter Laabs, City Traffic Engineer
Subj: Traffic Analysis, Route E Alternatives

The projections of traffic contained in the Sonoma County Transportation Plan assume all proposed roadway segments will be constructed. On the east side of Sebastopol there are two segments that are proposed. They are: Route E, between Gravenstein Highway South and Sebastopol Avenue (the southeast quadrant of the City); and a segment between Gravenstein Highway and High School Road (the northeast quadrant of the City).

The traffic projection for Route E in the Transportation Plan is 19,000 vehicles per day. This is reduced to 12,000 vehicles per day if the northern extension is not constructed.

Route E must have a shorter travel time than the present route in order for it to be attractive to drivers. All three alternatives have this feature. The time path between the intersection of Bloomfield Road and Gravenstein Highway South and the intersection of Sebastopol Avenue and Morris Street for the present route and the three alternatives are listed below.

<u>Alternative</u>	<u>Time Path</u>
Present	4.69 min
E 1 (Fircrest)	2.33 min
E 2 (Cooper)	2.58 min
E 3 (Bloomfield)	2.48 min

The location of the southerly terminus of Route E will have an effect on how much through traffic that will be attracted to the highway. The more southerly the terminus, the fewer through trips that will be attracted. The extension of Palm Avenue to Route E will provide a route for those trips that enter the network north of the southerly terminus.

The projection of traffic for the alternative alignments is listed below.

Alignment E 1 (Sonoma County General Plan Alignment)
Fircrest Avenue - Palm Avenue 12,000 vpd
Palm Avenue - Sebastopol Avenue 16,200 vpd
Palm Avenue extension 4,200 vpd

Alignment E 2
Cooper Avenue - Palm Avenue 10,900 vpd
Palm Avenue - Sebastopol Avenue 16,200 vpd
Palm Avenue extension 5,300 vpd

Alignment E 3
Bloomfield Road - Palm Avenue 10,200 vpd
Palm Avenue - Sebastopol Avenue 16,200 vpd
Palm Avenue extension 6,000 vpd

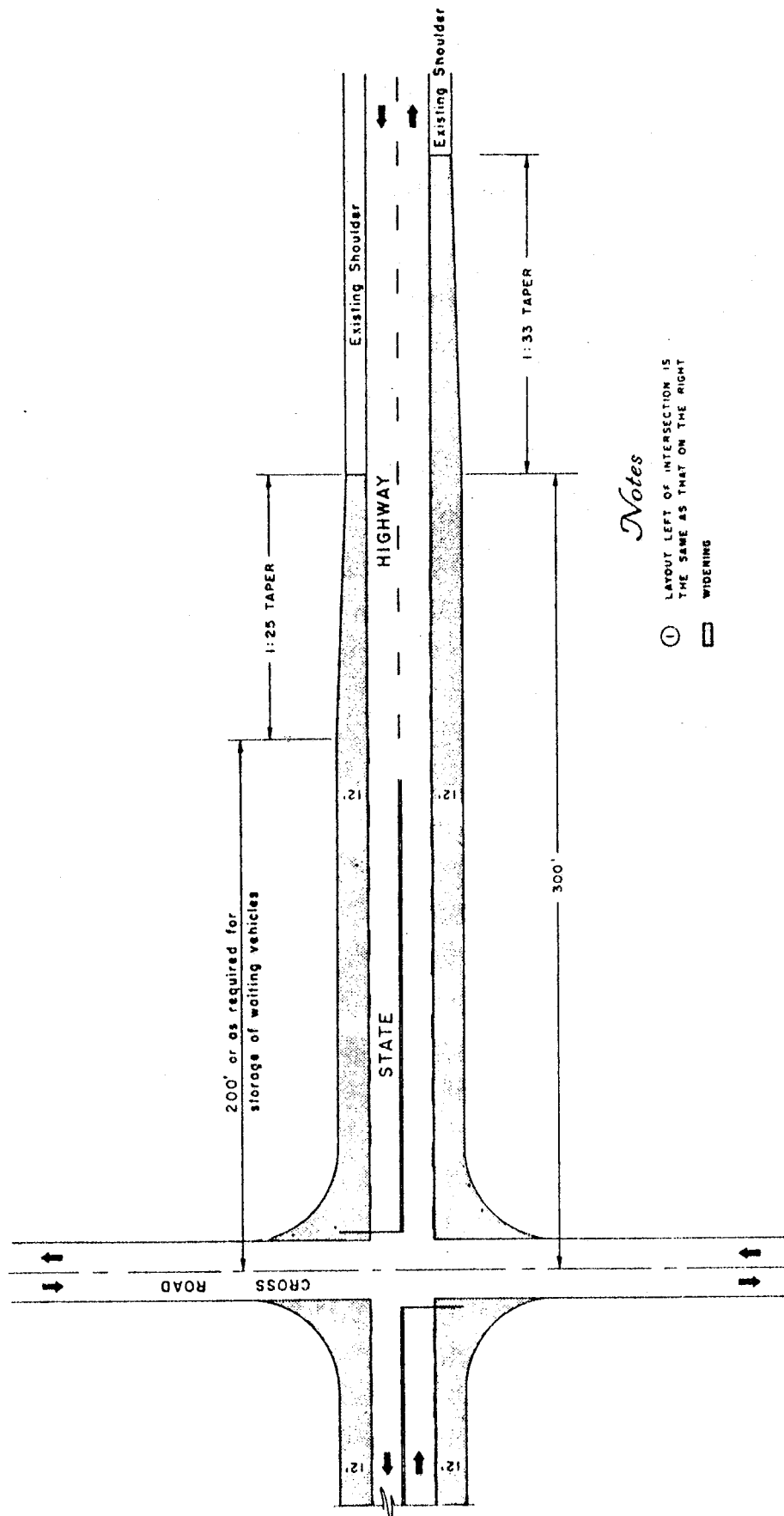
A two lane highway with uninterrupted flow will be able to handle the projected volumes comfortably. Traffic signals will be needed at the northerly and southerly terminal points and at the intersection with Palm Avenue extension.

Additional lanes will probably be required at the signalized intersections in order to maintain a consistent level of service throughout the route. An example of how additional lanes could be added without requiring additional right-of-way is illustrated in the attached Figure 7-406.7 from the Caltrans Highway Design Manual.

WLB
Walter Laabs

/kal

attachment



Notes

- ① LAYOUT LEFT OF INTERSECTION IS THE SAME AS THAT ON THE RIGHT
- WIDENING

WIDENING OF 2-LANE ROADS AT SIGNALIZED INTERSECTIONS

RE-CAP OF PROJECT COSTS

	<u>E-1</u>	<u>E-2</u>	<u>E-3</u>
Construction Estimate	\$1,209,732	\$1,538,539	\$1,893,706
Engineering - 10%	120,973	153,853	189,370
Right-of-Way Acquisition	1,260,000	1,105,000	1,005,000
Right-of-Way (Legal/Admin./ Negotiation) - 25%	315,000	276,250	251,250
Appraisal Report	15,000	15,000	15,000
Soils Report	10,000	10,000	10,000
E.I.R.	<u>40,000</u>	<u>40,000</u>	<u>40,000</u>
TOTAL	\$2,970,705	\$3,138,642	\$3,404,326

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